ABSTRACT

The present study is concerned with the selection of mutant strain of *Aspergillus niger* for the production of xylanase. The parental strain GCBT-35 was subjected to MNNG (N-methyl N-nitro N-nitroso guanidine) treatment for five to sixty minutes. Sixty mutants were isolated by observing the clear zones of xylanase activity in the petriplates. Of all the mutants tested for enzyme production mutant GCBCX-20 gave maximum production (200 ± 2.86^{a}) of xylanase.

Different agricultural by products such as cotton seed meal, bagasse, sunflower meal, soybean meal, rice husk, rice bran and wheat bran were tested for xylanase production. Among all the substrate tested wheat bran at the level of 2.5% gave maximum production of xylanase .The production of enzyme was significantly improved when starch at a level of 0.005%, urea 0.25%, Tween-80 0.3 % and $CaSO_4$ 0.15% were supplemented to the fermentation medium. The optimum production of xylanase (250 U/ml) was achieved, 48 h after inoculation. The cultural conditions such as incubation temperature (30°C), volume of fermentation medium (25 ml) and initial pH (5.0) were also optimized. The xylanase production by mutant strain of *Aspergillus niger* was found to be 2.0 folds higher than the parental strain.